SEMICONDUCTOR DEVICE HAVING BUMP ELECTRODE

Abstract

A semiconductor device having a bump electrode comprising a substrate having a dielectric layer formed thereon, an aluminum contact pad on the substrate wherein at least a portion of the aluminum contact pad is exposed through the dielectric layer on the substrate. The aluminum contact pad is provided with an under bump metallurgy including a aluminum layer formed on the exposed portion of the aluminum contact pad, a nickel-vanadium layer formed on the aluminum layer and a titanium layer formed on the nickel-vanadium layer. A gold bump formed on the titanium layer acts as the bump electrode.